



## Investigating the impact of financial performance indicators on dividend policy

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### Abstract

This paper aims to study the effect of financial performance indicators on the dividend policy among companies listed on the Tehran Stock Exchange. The statistical sample includes 91 companies between 2008 and 2012. Dividend policy was considered a dependent variable, independent variables were economic value added, market value added, return on assets, and market to book value ratio, and control variables included company size and systematic risk. In the theoretical principles part, data were gathered through library method, and in the part of hypothesis tests, data were collected from financial statements and the Tehran Stock Exchange Website. Data were then examined in a multiple regression analysis and a correlation test. Results showed that Financial performance indicators indicators are direct and significant effects on dividend policy.

Keywords: Dividend Policy, Financial performance indicators, Economic Value Added, Market Value Added, Return on Assets

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## 1. Introduction

When a company regularly announces earnings reports, stakeholders regard such consistency as the firm's normal core business operations. Any reduction in the announced earnings, however, can be an indicator of a potential problem. In that way, companies' management struggle to find a consistent dividend policy. In case of reduced earnings, they though try to keep the dividend rate or even raise it. This reveals the importance of dividend policy and the psychological impact of dividend rate on the firm's value, share price and the shareholders' expectations (Zhu Wange, 2012). A dividend is a payment made by a corporation to its shareholders, usually as a distribution of profits. When a corporation earns a profit or surplus, it can re-invest it in the business (called retained earnings), and pay a fraction of this reinvestment as a dividend to shareholders. This is to management to decide on retaining or distributing all or a fraction of the dividend. Such decisions are highly important in current competitive economy. Efficient decisions make a radical change in corporations' value (Mehran, 2004).

Companies should retain dividends to the needing extent of investment opportunities. If there are not sufficient investment opportunities to provide a return higher than expected, retained resources should be paid as earnings per share (Hajian, 2006). When dividends affect the value of ordinary shares, the dividend policy would be just an inactive variable identified only by available investment opportunities. Firms, thus, can affect shareholders' wealth through changing the rate of dividends (Ameri, 2007).

Enforcing the general policies, pertaining to Principle 44 of the Constitution, and the growth of privatization has directed manufacturing companies in a route to privatization. To optimally allocate their resources and investment in such companies, investors search for the best investing opportunities. The capital markets players examine the firms' Financial performance indicators and leverage as an index of probable failure and bankruptcy. It is, thus, necessary to study the impact of Financial performance indicators and leverage on the dividend policy.

**First Hypothesis:** significant association exists between economic value added and dividend policy among companies listed on the Tehran Stock Exchange.

**Second Hypothesis:** significant association exists between market value added and dividend policy among companies listed on the Tehran Stock Exchange.

**Third Hypothesis:** significant association exists between return on assets and dividend policy among companies listed on the Tehran Stock Exchange.

**Fourth Hypothesis:** significant association exists between market to book value ratio and dividend policy among companies listed on the Tehran Stock Exchange

## 2. Literature Review

In his research study, Mehrani (2009) searched for a model to find the association between the dividends and investment. His findings revealed a dividend model in Iran, and showed that companies followed a specified but simple policy. Results also disclosed that earning and divided variables of the previous year were not the important factors of decisions. Furthermore, investment policies were independent of dividend policies.

Etemadi and Chalaki (2009) examined the link between the Financial performance indicators and the dividend and found a significant correlation between them regardless of the industry.

In a research study titled "the effect of dividends on changing share prices in the Tehran Stock Exchange", Khorsand (2010) found the following results:

1. When companies announce cash dividends, their share prices falls. Such drop does not correspond to the announced dividends. As a result, announced dividends (in cash or not) change the shareholders' wealth.

2. An inverse correlation exists between the announced cash dividends and price changes after the announcement.
3. Dividends increase with the earnings per share. Put it differently, there is a positive correlation between altered earnings per share and dividends. Increasing the earning per share, managers incline to pay higher dividends to meet shareholders' satisfaction. This shows that companies annually change the dividend payout ratio.
4. A direct association exists between the dividend payout and the price-to-earnings ratio. In other words, the more the dividend payout ratio increases, the more the price to earnings ratio increases.

Imani Pourmoghadam (2010) conducted a research study titled "an investigation into how changed dividends and changed earnings are related to each other among companies listed on the Tehran Stock Exchange.

His findings revealed that dividend and earning per share could be considered as important factors for shareholders to control and evaluate the firm management. Management's performance is viewed by shareholders as acceptable and desirable when managers could have increased the company's productivity to maintain the efficiency of different factors and positively affected shareholders' wealth through raising the company's value and implementing projects with net present value. The link between the dividend and the earning per share is an indicator of the dividend policy. Dividend policy can draw new shareholders.

Mashayekh and Abdollahi (2011) studied the relation between concentrated ownership, the company's performance and dividend policy among companies listed in Tehran Stock Exchange. Results showed that a significant association existed between ownership concentration and performance. This means that the more concentrated the ownership is, the more control is over managers and the company's performance improves. A significant correlation was also observed between performance criteria and the dividend. In other word, improved performance would be followed by higher dividend. Such correlation also statistically existed among ownership concentration and the dividend.

Habibi et al. (2012) examined the relation between ownership concentration, companies' performance and the dividend policy among companies listed on the Tehran Stock Exchange. Their results confirmed the significant positive association between ownership concentration and shareholders' equity. Put it differently, the more concentrated the ownership, the more control would be over managers and the higher return on equity would be achieved. Results also verified the significant positive link between dividend policy and the return on sale. This shows a positive association between sale performance and the dividend. In other words, the improved sale performance can be followed by the improved dividend. In return, such significant correlation was not observed between ownership concentration and the dividend policy.

Skinner (2013) checked the validity of the hypothesis of the information content of cash dividend and the hypothesis of communication. He concluded that cash dividend provided information about future earnings. There is a stronger relation between future earnings and current earnings for companies paying dividends than for companies do not payout the dividend. The strongest relation is for those distributing more cash dividend. Since managers currently show more interest in conservative distribution of dividend, advanced technology, and extended communication, the hypothesis of communicating about dividend is not defensible. According to Skinner, the reported dividends of companies paying dividend will be more consistent with higher quality in coming periods.

Chen et al. (2012) conducted a research study titled "the association between Financial performance indicators and dividends among companies listed in China Stock Exchange between 2006 and 2012). They showed that there is a significant association exists between operating cash flow and operating profit with the cash dividends. They also showed that there

is a significant association exists between the earnings per share (EPS) with the dividend per share

### 3. Research Methodology

Examining the relation between the variables of the Stock Exchange, this is a practical research study aiming to find correlations and present some suggestion on the improvement of market efficiency. It is also a correlational descriptive study explaining the data in a regression analysis.

The statistical population includes all companies listed on the Tehran Stock Exchange. As to some inconsistencies among the members, the following conditions were considered in choosing the companies:

1. The fiscal year end month is the March of each calendar year.
2. The fiscal year has not changed within years 2008 to 2012.
3. The company listed on the Tehran Stock Exchange by the end of fiscal year 2012.
4. Companies' share trades have constantly been carried out in Tehran Stock Exchange.  
There should not be any trading halts for more than one month about the interested share.

According to above conditions, 91 companies were selected.

In the theoretical principles part, data were gathered through library method, and in the part of hypothesis tests, data were collected from financial statements and the Tehran Stock Exchange Website.

The regression equations to test the hypotheses are as follows:

$$1) DIV = \alpha_0 + \beta_1 EVA + \beta_2 SIZE + \beta_3 BET + \varepsilon$$

$$2) DIV = \alpha_0 + \beta_1 MVA + \beta_2 SIZE + \beta_3 BET + \varepsilon$$

$$3) DIV = \alpha_0 + \beta_1 MV / BV + \beta_2 SIZE + \beta_3 BET + \varepsilon$$

Where,

DIV = dividend

EVA = economic value added

MVA = market value added

MV/BV = market to book value ratio

SIZE = company size

BET = systematic risk

### 5. Definitions of Variables

Dividend policy was considered a dependent variable, independent variables were economic value added, market value added, return on assets, and market to book value ratio, and control variables included company size and systematic risk.

#### 5.1. Dividend Policy

Dividend is an important subject in financial management. A dividend is a payment made by a corporation to its shareholders, usually as a distribution of profits. When a corporation earns a profit or surplus, it can re-invest it in the business (called retained earnings), and pay a fraction of this reinvestment as a dividend to shareholders. This is to management to decide on retaining

or distributing all or a fraction of the dividend. Such decisions are highly important in current competitive economy. Efficient decisions make a radical change in corporations' value. Shareholders may directly take advantage of the dividend payout. It also affects companies' ability to accumulate their earnings to capture growth opportunities (Backer and Powel, 2005). Here, we used DPS to EPS ratio in order to assess companies' dividends.

$$DVID = \frac{DPS}{EPS}$$

### 5.2. Economic Value Added

A positive EVA refers to a return on capital which is greater than the capital expenditure. Finally, an EVA being greater than zero implies to an increased share values (Pinto, 2001).

EVA was developed first by Stern Stewart as follows:

$$EVA = NOPAT - (WACC * Capital)$$

Where:

NOPAT = net operating profit after tax

WACC = weighted average cost of capital

CAPITAL = capital

### 5.3. Market Value Added

Market value added (MVA) is the sum of the market value of the shareholders' equity and the market value of liability. Theoretically, value added can be achieved from the market at any point in time. MVA is the difference between the current market value of a firm and the capital contributed by investors within a fiscal year and it is achieved also by the average book value of shareholders' equity is the sum of equity at the beginning or end of the period divided by two (Hejazi and Arefi, 2004).

### 5.4. Return on Assets

The return on assets (ROA) shows the percentage of how profitable a company's assets are in generating revenue (Lee, 2008). It is achieved when the net profit is divided by the sum of assets.

### 5.5. Market to Book Value Ratio

The market to book financial ratio, also called the price to book ratio, measures the market value of a company relative to its book or accounting value. The market value of the company is its value at any point in time as determined by the financial marketplace. The book value, or historical value, is almost always lower than the market value since some assets may be off-balance sheet items.

### 5.6. Company Size

There are various criteria for measuring the size of companies, including total asset, sale, and the total number of employees. Here, we used the natural logarithm of total assets to measure companies' size.

### 5.7. Systematic Risk

Beta coefficient ( $\beta$ ) was used to measure the systematic risk. Put it simply, it determines the return rate shareholders expect to achieve (Pee noe, 2002).

Beta coefficient is the covariance of the return on share with the exchange efficiency divided by the variance of exchange portfolio (Keyrelli Cibrown, 2005).

The Beta coefficient was calculated by Rahavard Novin.

## 6. Data Analysis

Data were analyzed first by descriptive statistic including standard deviation, skewness, etc. and then by the inferential statistic. The inferential statistic includes normality, correlation test and multiple regression tests.

## 7. Findings

### 7.1. First Hypothesis Testing

The first hypothesis studies the effect of economic value added on the dividend policy among companies listed on the Tehran Stock Exchange. Regression results have been presented in table 1:

Table 1. regression results on the economic value added and dividend policy

Significant level	T-statistics	Coefficient	Variable
0.002	1.544	1.765	Constant
0.040	1.531	*0.857	economic value added
0.001	1.985	*0.145	company size
0.213	1.395	0.335	systematic risk
–	–	1.775	Durbin-Watson
0.003	–	14.002	F statistic
–	–	0.668	correlation coefficient
–	–	0.446	R Square
–	–	0.445	Adjusted R Square

As shown above, economic value added and the company size ( $p$ -value < 5%) have a significant effect on the dividend policy. Variable coefficients show that the economic value added affects the dividend policy more than the company size. Economic value added has an inverse, strong and significant effect on the dividend policy. The effect of company size is direct, weak and significant. The systematic risk, with the level of significance greater than 0.05, does not have a significant impact on the dividend policy. Regarding F, the fitted regression model is significant. And given the coefficient of determination, these variables explain 44.6 percent of any change in the dividend policy. As Durbin–Watson statistic is between 1.5 and 2.5, it is concluded that there is no autocorrelation between variables.

### 2.4. Second Hypothesis Testing

The Second hypothesis studies the effect of market value added on the dividend policy among companies listed on the Tehran Stock Exchange. Regression results have been presented in table 2:

Table 2: regression results on the market value added and dividend policy

Significant level	T-statistics	Coefficient	Variable
0.000	1.365	1.445	Constant
0.000	1.118	0.729	market value added
0.000	1.254	*0.387	company size
0.112	1.619	0.431	systematic risk
–	–	1.894	Durbin-Watson
0.001	–	6.987	F statistic
–	–	0.702	correlation coefficient
–	–	0.492	R Square
–	–	0.491	Adjusted R Square

As shown above, market value added and the company size (p-value < 5%) have a significant effect on the dividend policy. Variable coefficients show that the market value added affects the dividend policy more than the company size. Market value added has an inverse, strong and significant effect on the dividend policy. The effect of company size is direct, weak and significant. The systematic risk, with the level of significance greater than 0.05, does not have a significant impact on the dividend policy. Regarding F, the fitted regression model is significant. And given the coefficient of determination, these variables explain 49.2 percent of any change in the dividend policy. As Durbin–Watson statistic is between 1.5 and 2.5, it is concluded that there is no autocorrelation between variables.

### 3.4. Third Hypothesis Testing

The Third hypothesis studies the effect of return on assets on the dividend policy among companies listed on the Tehran Stock Exchange. Regression results have been presented in table 3:

Table 3: regression results on the return on assets and dividend policy

Significant level	T-statistics	Coefficient	Variable
0.05	1.405	1.545	Constant
0.003	1.950	0.747	Return on assets
0.003	1.840	0.245	company size
0.391	1.257	0.184	systematic risk
–	–	1.921	Durbin-Watson
0.001	–	6.950	F statistic
–	–	0.645	correlation coefficient
–	–	0.416	R Square
–	–	0.415	Adjusted R Square

As shown above, return on assets and the company size (p-value < 5%) have a significant effect on the dividend policy. Variable coefficients show that return on assets affects the dividend policy more than the company size. Return on assets has an inverse, strong and significant effect on the dividend policy. The effect of company size is direct, weak and significant. The systematic risk, with the level of significance greater than 0.05, does not have a significant impact on the dividend policy. Regarding F, the fitted regression model is significant. And given the coefficient of determination, these variables explain 41.6 percent of any change in the dividend policy. As Durbin–Watson statistic is between 1.5 and 2.5, it is concluded that there is no autocorrelation between variables.

#### 4.4. Fourth Hypothesis Testing

The fourth secondary hypothesis studies the effect of market to book value ratio on the dividend policy among companies listed on the Tehran Stock Exchange. Regression results have been presented in table 4:

Table 4: regression results on market to book value ratio and dividend policy

Significant level	T-statistics	Coefficient	Variable
0.000	1.558	1.284	Constant
0.000	1.511	0.844	Ratio of market value to book value
0.000	1.829	0.198	company size
0.173	2.927	0.726	systematic risk
–	–	1.669	Durbin-Watson
0.001	–	2.292	F statistic
–	–	0.699	correlation coefficient
–	–	0.488	R Square
–	–	0.487	Adjusted R Square

As shown above, market to book value ratio and the company size (p-value < 5%) have a significant effect on the dividend policy. Variable coefficients show that market to book value ratio affects the dividend policy more than the company size.

Ratio of market value to book value has an inverse, strong and significant effect on the dividend policy. The effect of company size is direct, weak and significant. The systematic risk, with the level of significance greater than 0.05, does not have a significant impact on the dividend policy. Regarding F, the fitted regression model is significant. And given the coefficient of determination, these variables explain 48.7 percent of any change in the dividend policy. As Durbin–Watson statistic is between 1.5 and 2.5, it is concluded that there is no autocorrelation between variables.

## 5. Conclusion and Discussion

Paper aims to study the effect of Financial performance indicators on the dividend policy among companies listed on the Tehran Stock Exchange. The statistical sample includes 91 companies between 2008 and 2012. Dividend policy was considered a dependent variable, independent variables were economic value added, market value added, return on assets, and market to book value ratio, and control variables included company size and systematic risk. In the theoretical principles part, data were gathered through library method, and in the part of hypothesis tests, data were collected from financial statements and the Tehran Stock Exchange Website. Data were then examined in a multiple regression analysis and a correlation test.

The important findings include:

1. policy among companies listed on the Tehran Stock Exchange between 2008 and 2012. It can be claimed that companies with higher economic value added more take the dividend policy.
2. The market value added has a direct, strong and significant effect on the dividend policy among companies listed on the Tehran Stock Exchange between 2008 and 2012. It can be claimed that companies with higher market value added more take the dividend policy.
3. Return on assets has a direct, strong and significant effect on the dividend policy among companies listed on the Tehran Stock Exchange between 2008 and 2012. It can be claimed that companies with higher return on assets more take the dividend policy.

4. Market to book value ratio has a direct, strong and significant effect on the dividend policy among companies listed on the Tehran Stock Exchange between 2008 and 2012. It can be claimed that companies with higher market to book value ratio more take the dividend policy.

Improved Financial performance indicators (economic value added, market value added and the return on assets) would increase the liquidity and encourage managers to distribute earnings. In case of weak Financial performance indicators, managers have to avoid the distribution of dividend.

5. Company size has a direct, strong and significant effect on the dividend policy among companies listed on the Tehran Stock Exchange between 2008 and 2012. It can be claimed that bigger companies more take the dividend policy.

Larger companies or companies with more assets more probably take the policy of distributing profit, because they enjoy sufficient financial resources and professional managers making wise decisions on financial matters. A wise decision is to attract the shareholders' trust, because profit distribution does not highly affect investors' trust.

These results confirm findings achieved by Chen et al. (2012) and Etemadi and Chalaki (2009). However, they do not agree with Miton's results (2012).

## 6. Suggestions

Regarding the evidence obtained in the study and by testing hypotheses, this paper offers some suggestions to the Tehran Stock Exchange, managers, shareholders, creditors, banks, credit institutes, students and researchers:

1. According to the research results, more strict supervision is recommended to the board on executives' performance to maximize their Financial performance indicators.
2. The financial leverage of the company's managers try to maintain a reasonable level because of high financial leverage, reflecting the company's bankruptcy risk and may affect the distribution of company profits.
3. Shareholders and owners have to increase assets and capital to help their company better take advantage of investment opportunities and improve its Financial performance indicators. This highly affects dividend policy.
4. According to hypothesis testing is recommended to investors if the investment risk is important for them to invest on companies with low financial leverage.

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